

# GymRats – Gym Management System

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## 1. Project Overview

GymRats is a complete digital solution designed to manage gym operations efficiently. It helps in handling member records, membership packages, billing and payment tracking, and communication between gym administrators and members through notifications. The system reduces manual paperwork and provides real-time updates using cloud technologies.

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## 2. Technologies Used

### 2.1 Frontend Technologies

- **HTML5** – Used for structuring the web pages.
- **CSS3** – Used for designing a modern and responsive interface with:
  - CSS Variables (for theming)
  - Flexbox and Grid layouts
  - Glassmorphic design using backdrop filters
  - Smooth animations and transitions
  - Media queries for responsive design
- **Vanilla JavaScript** – Used for client-side interactivity and dynamic updates.

### 2.2 Backend & Database

- **Firebase Authentication** – Secure login system using Email/Password.
- **Firebase Firestore** – NoSQL cloud database for storing and syncing data in real time.

### 2.3 Design Framework / UI Tools

- **Google Fonts (Inter)** – Clean and modern typography.
  - **Glassmorphic UI Design** – Premium design with blur and transparency effects.
  - **Luxury Black & Gold Theme** – Professional look for gym management.
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## 3. Key Features

### 3.1 Admin Dashboard Features

#### 3.1.1 Member Management

- Add new members with complete details
- View all members in a searchable table
- Delete members
- Track member status and joining date
- Supports multiple membership packages:
  - Monthly

- Quarterly
- Yearly

### **3.1.2 Billing System**

- Generate bills for specific members
- Add custom bill amounts and descriptions
- Track bill payment status (Paid / Unpaid)
- Mark bills as paid
- View all bills along with member information

### **3.1.3 Notification System**

- Send broadcast notifications to all members
- Custom notification title and message support
- Timestamp tracking for every notification

### **3.1.4 Reports & Analytics**

- Total members count
  - Total revenue calculation in INR (₹)
  - Pending bills tracking
  - Real-time updates from Firestore
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## **3.2 Member Dashboard Features**

### **3.2.1 Overview Section**

- Personalized welcome message
- Active days counter (calculated since joining date)
- Total amount paid tracker
- Member since date display
- Membership details card including:
  - Email
  - Phone
  - Package
  - Status

### **3.2.2 Bills & Payments**

- View complete payment history
- Bill status indicators (Paid / Unpaid)
- Detailed bill information:
  - Amount
  - Date
  - Package
- Download receipt feature for paid bills
- Real-time bill updates

### **3.2.3 Notifications**

- View broadcast notifications from admin
- Notification cards with title, message, and date
- Real-time updates

### 3.2.4 User Experience Enhancements

- Sidebar navigation with icons
- Smooth section transitions
- Glassmorphic card layouts
- Fully responsive design for all devices

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## 4. Project Structure

```
Gym Management System/
├── index.html          # Login page
├── style.css           # Global styles & theme
├── admin/
│   └── dashboard.html  # Admin dashboard
└── member/
    └── dashboard.html  # Member dashboard
└── js/
    ├── firebase-config.js  # Firebase configuration
    ├── auth.js             # Authentication logic
    ├── admin.js            # Admin functionality
    ├── member.js           # Member functionality
    └── utils.js            # Helper functions & logging
```

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## 5. Functional Workflows

### 5.1 Admin Workflow

1. Admin logs in using credentials
2. Admin navigates through sidebar modules:
  - o Members
  - o Bills
  - o Notifications
  - o Reports
3. Admin adds new members with complete details
4. Admin generates bills for members
5. Admin marks bills as paid after payment confirmation
6. Admin sends broadcast notifications
7. Admin views analytics such as revenue and pending bills

### 5.2 Member Workflow

1. Member logs in using email/password
  2. Member views dashboard overview and membership details
  3. Member checks payment history and bill status
  4. Member downloads receipts for paid bills
  5. Member reads notifications sent by admin
  6. Member tracks active days and total paid amount
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## 6. Security Features

- Secure login using Firebase Authentication
  - Email/Password authentication method
  - Role-based access control (Admin vs Member)
  - Firestore secure data storage
  - Client-side validation
  - Protected pages (redirect if not authenticated)
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## 7. Responsive Design

### 7.1 Breakpoints

- **Desktop:** Full sidebar (280px) + main content
- **Tablet ( $\leq 968\text{px}$ ):** Reduced sidebar (240px)
- **Mobile ( $\leq 768\text{px}$ ):** Sidebar hidden, full-width content

### 7.2 Adaptive Features

- Flexible grid layouts
  - Responsive typography
  - Touch-friendly buttons
  - Optimized card designs for small screens
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## 8. Unique Features

- Glassmorphic premium UI design
  - Real-time data sync using Firestore
  - Receipt download option for paid bills
  - Dynamic stats (active days, total paid amount)
  - Broadcast notifications from admin
  - Indian Rupee currency formatting (₹)
  - Payment status tracking with visual indicators
  - Member search functionality
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## 9. Project Visuals

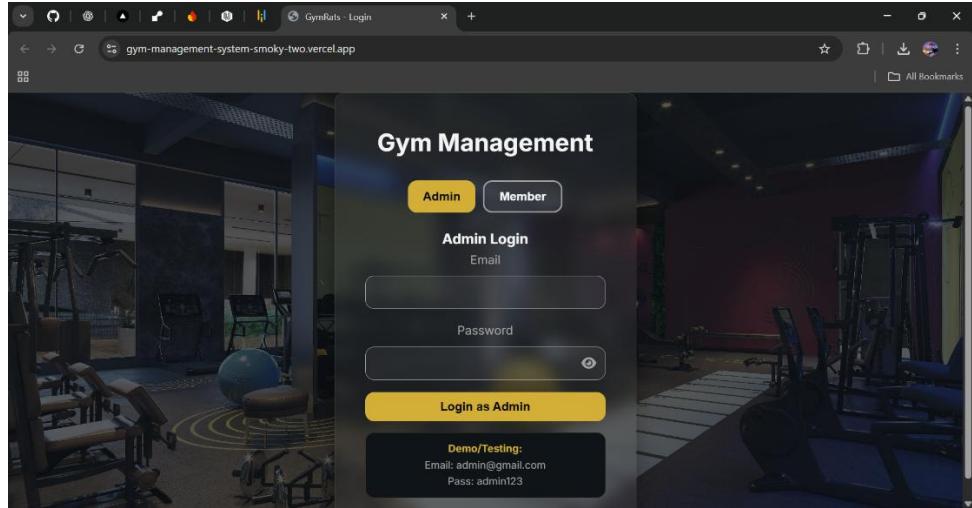


Figure 1: Main Login Page

A screenshot of the Admin Dashboard showing the Members Management section. The title bar says "GymRats - Admin". On the left, a sidebar menu has "Members" selected. The main area is titled "Members Management" and shows a table of members with columns: Name, Contact, Joint Date, Status, and Actions. Three members are listed: M1, M2, and M3, each with their email, contact number, joint date (Monthly or Quarterly), status (Active), and a "Delete" button.

Figure 2: Admin Dashboard - Members

A screenshot of the Admin Dashboard showing the Bills &amp; Fees section. The title bar says "GymRats - Admin". On the left, a sidebar menu has "Bills &amp; Fees" selected. The main area is titled "Bills &amp; Fees" and shows a "Create New Bill" form. It includes fields for "Select Member" (a dropdown menu), "Amount" (a text input), and "Description / Month" (a text input with placeholder "e.g. January 2025 Fee"). At the bottom is a "Generate Bill" button.

Figure 3: Admin Dashboard - Bills & Payments

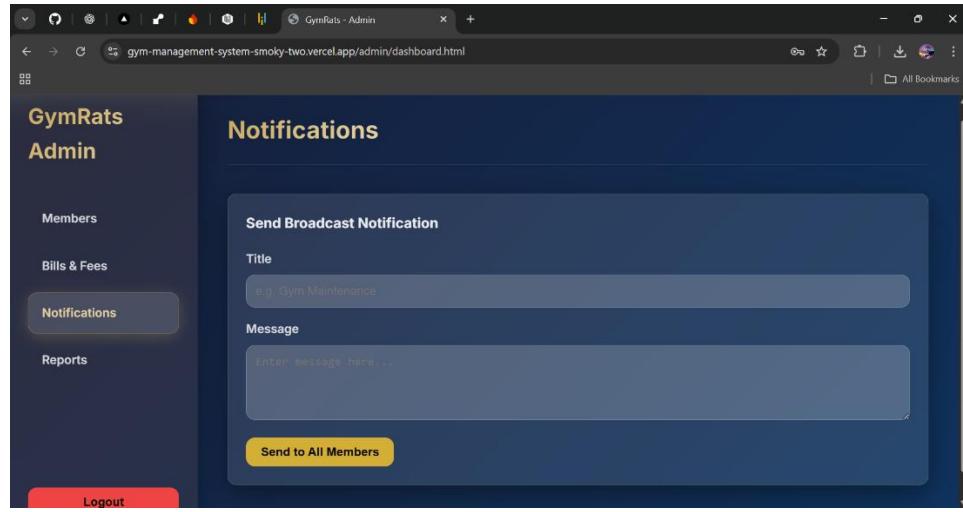


Figure 4: Admin Dashboard - Notifications

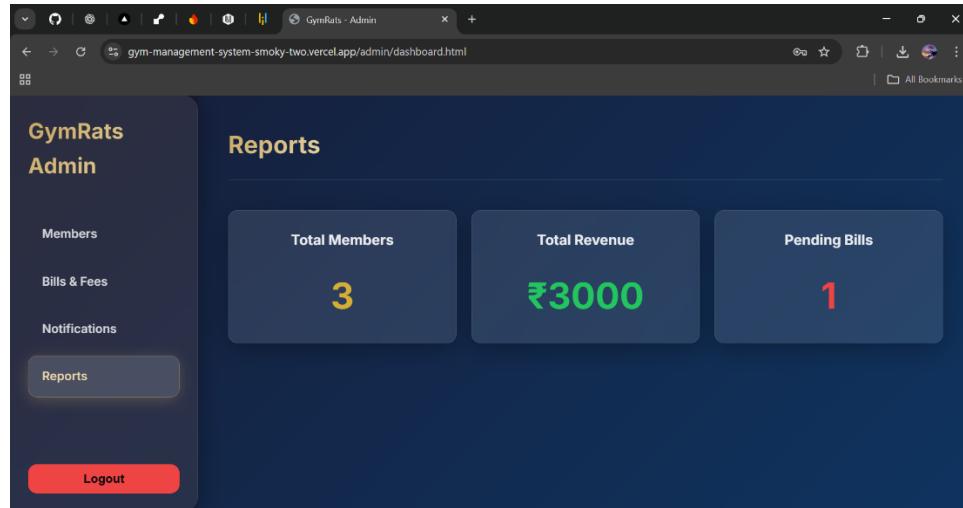


Figure 5: Admin Dashboard – Reports

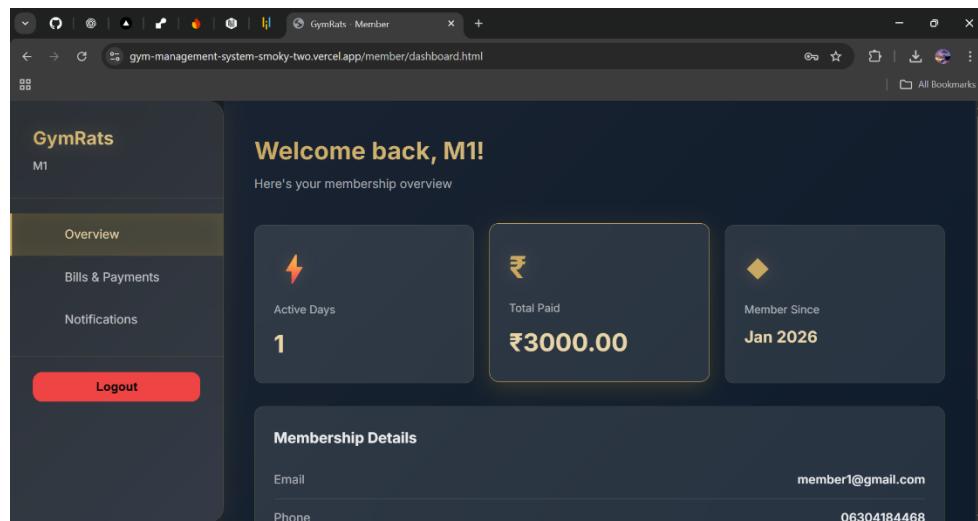
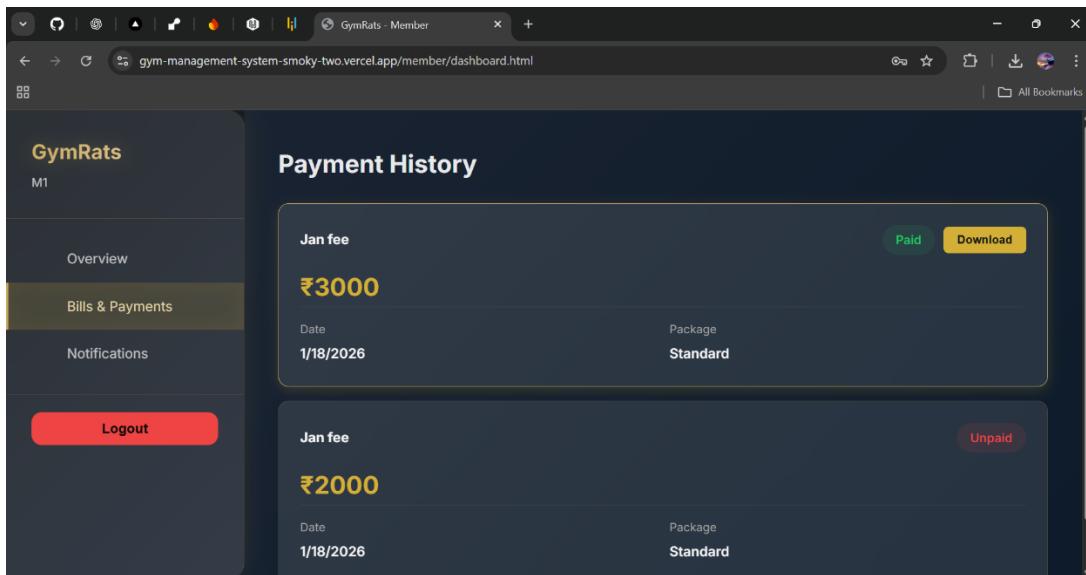


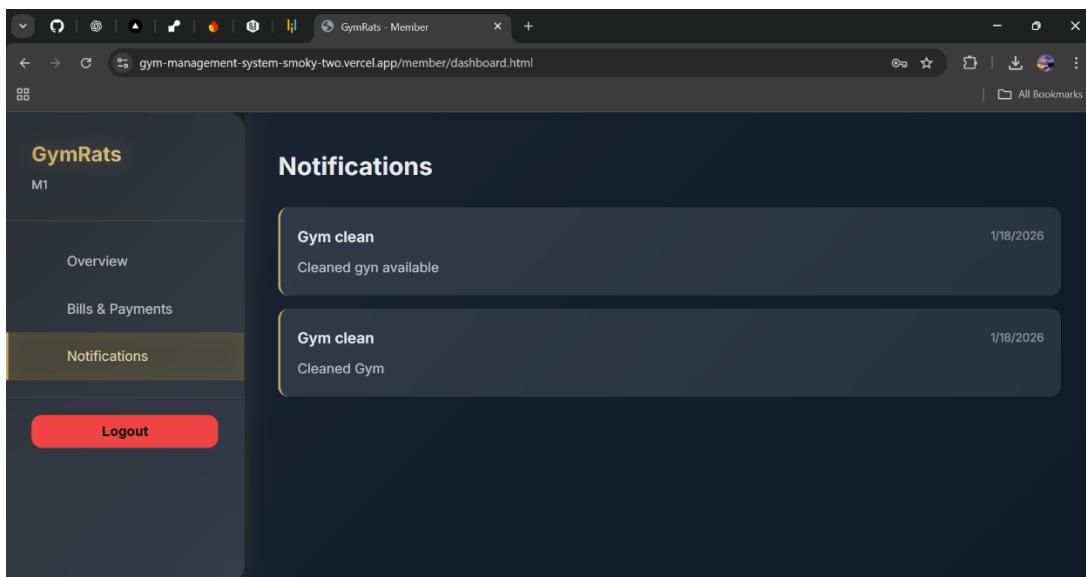
Figure 6: Member Dashboard - Overview



The screenshot shows the 'Bills & Payments' section of the GymRats member dashboard. On the left, a sidebar menu includes 'Overview', 'Bills & Payments' (which is selected and highlighted in gold), and 'Notifications'. A red 'Logout' button is at the bottom. The main area is titled 'Payment History' and displays two entries:

- Jan fee**: ₹3000. Status: Paid. Date: 1/18/2026. Package: Standard.
- Jan fee**: ₹2000. Status: Unpaid. Date: 1/18/2026. Package: Standard.

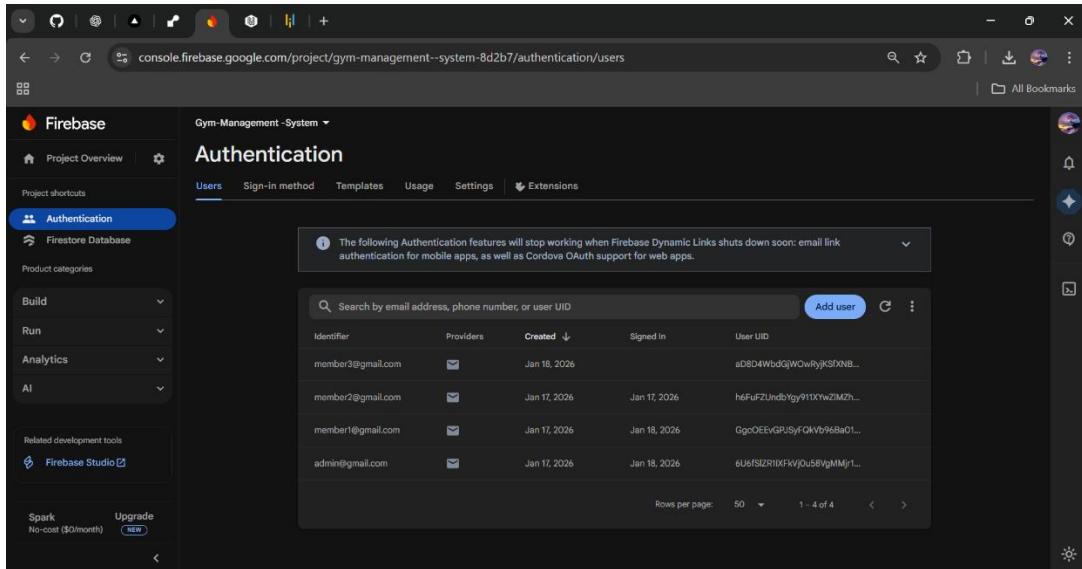
Figure 7: Member Dashboard - Bills & Payments



The screenshot shows the 'Notifications' section of the GymRats member dashboard. The sidebar menu shows 'Overview', 'Bills & Payments', and 'Notifications' (selected and highlighted in gold). A red 'Logout' button is at the bottom. The main area is titled 'Notifications' and lists two notifications:

- Gym clean**: Cleaned gyn available. Date: 1/18/2026.
- Gym clean**: Cleaned Gym. Date: 1/18/2026.

Figure 8: Members Dashboard – Notifications



The screenshot shows the Firebase Authentication screen in the Google Cloud Platform console. The sidebar includes 'Project Overview', 'Authentication' (selected and highlighted in blue), 'Firestore Database', and 'Analytics'. A message at the top states: 'The following Authentication features will stop working when Firebase Dynamic Links shuts down soon: email link authentication for mobile apps, as well as Cordova OAuth support for web apps.' The main area shows a table of users:

Identifier	Providers	Created	Signed in	User UID
member3@gmail.com	✉️	Jan 18, 2026		aD8D4WbdGjWoWryjKSNxNB...
member2@gmail.com	✉️	Jan 17, 2026	Jan 17, 2026	h6FuFZUUndbIgy91XxwzIM2h...
member1@gmail.com	✉️	Jan 17, 2026	Jan 18, 2026	GgoOEEvGjUSyfCKVb9s8e01...
admin@gmail.com	✉️	Jan 17, 2026	Jan 18, 2026	6U6SIZR1IXFKvJU58VgMMjrl...

Figure 9: Firebase Authentication

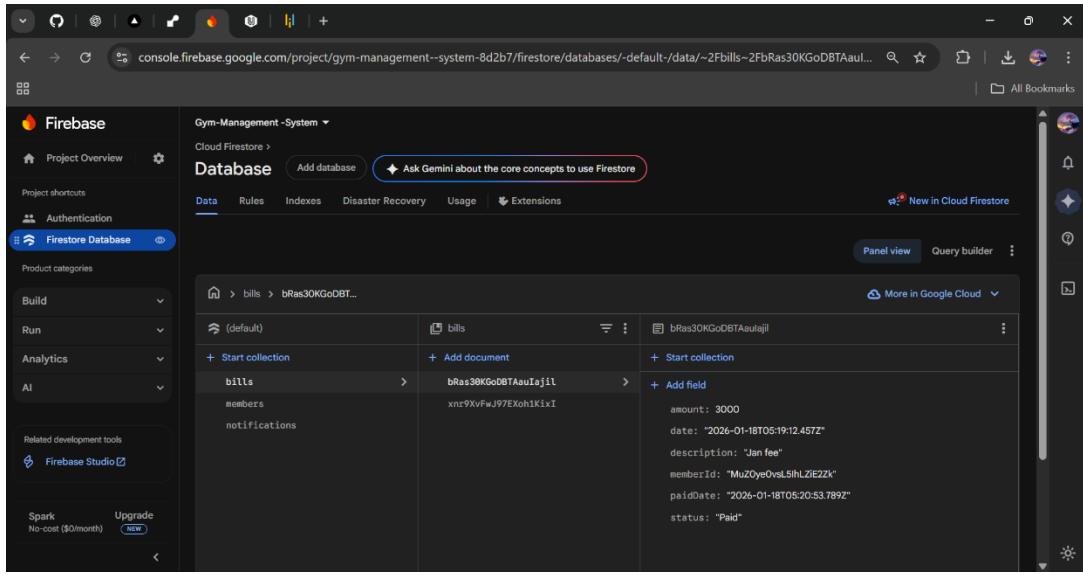


Figure 10: Firebase - Firestore

## 10. Conclusion

GymRats is a modern and feature-rich Gym Management System designed to simplify gym operations with a premium and professional user experience. It provides secure authentication, real-time data updates, billing automation, and smooth communication between admin and members. With its glassmorphic design and scalable Firebase backend, GymRats is a reliable and efficient solution suitable for gyms of any size.